Space Weather Forecast

Issued on Thursday, 25 August 2022 at 12:12 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: No significant activity with several sunspots on the visible disc.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar Activity is Low, with a few Common class flares observed. There are six sunspot regions on the visible disc, with two moderately sized, but magnetically simple, regions evident in the north and south of the right-hand side of the disc. The northern one has matured and is not showing any signs of flaring. The southern one has developed rapidly and is continuing to grow in size but no significant flares have been observed. No Earth-directed CMEs (Coronal Mass Ejections) were observed.

Solar Wind / Geomagnetic Activity: The solar wind followed an erratic declining trend over the last 24 hours, reducing from 420 to around 350km/s. The magnetic field strength was weak, with only small fluctuations observed in the important the north-south component. Resulting Geomagnetic activity was Quiet (Kp0-1).

Energetic Particles / Solar Radiation: The flux of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is likely to remain Low or Very Low through this period, with a chance (30%) of an isolated Moderate-class flare

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs currently feature in this forecast. Solar winds are expected to remain at Low levels with geomagnetic activity remaining largely Quiet. A slight enhancement is probable on day 2 (26th) and into day 3 (27th) with the solar wind becoming enhanced for a time to around 500 km/s, with perhaps isolated Active intervals.

Energetic Particles / Solar Radiation: The flux of energetic particles (high energy protons) is forecast to persist at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Met Office

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	5	5	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	30	30	40	30
Very Active	R3 to R5 X	No	1	1	5	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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